

DISCLOSURE OF THE INVENTION

In a plasma processing method making use of a plasma processing gas of a reactant gas and an inert gas, it is aimed at enhancing an efficiency of use of high-frequency power and a reactant gas to increase a processing rate. The plasma processing method comprises supplying high frequency power to an electrode 2 opposed to a substrate 6 to thereby generate plasma between the electrode 2 and the substrate 6 on the basis of a plasma processing gas comprising a reactant gas and an inert gas to perform film formation, etching, surface treatment or the like on the substrate 6, pressure P(Torr) of the plasma processing gas being set to satisfy the following relationship $2 \times 10^{-7}(\text{Torr/Hz}) \times f(\text{Hz}) \leq P(\text{Torr}) \leq 500(\text{Torr})$ where f(Hz) is a frequency of high frequency power.